



# INTERNAL AUDIT PERFORMANCE AUDIT ACCELA

June 5, 2006

Roanoke City Council Audit Committee  
Roanoke, Virginia

We have completed our audit of the Accela change control process. Our audit was performed in accordance with generally accepted government auditing standards.

## **BACKGROUND**

The Department of Planning, Building, & Development and the Department of Housing & Neighborhood Services have been utilizing the Accela system since July 2001. The system was designed to integrate the zoning and building inspection processes. The system has also been adapted to track the city's code enforcement activities. Accela is used to process applications, establish required permits, invoice permit fees, document inspections, and document actions and notices to property owners for code enforcement activities.

Section 7-6 of the City Code states that all fees for permits, inspections, and reinspections required by the building code shall be in such amounts as prescribed by City Council and published in the city's fee compendium. The fees charged in the Accela system are collected by the City Treasurer's Department. The Accela system must be modified to reflect changes in fees and City Code.

The Accela data resides on a SQL server in MS Access tables. Program changes for Accela are made through a program called Composer. There are end users at the department level and individuals in the Department of Technology with access rights to this program. With Composer, a user can determine how data is collected, displayed, organized, and processed in Accela. The Composer users do this by creating or modifying Accela screens which determine the "look" of the user interface. They can also modify any printed documents such as a permit, and Composer users can modify scripts which determine how the data is processed. The screens, scripts, and documents, as well as other components such as data fields, approvals, tables, etc., are linked together for specific activities to form compositions.

An audit of the change control process for Accela was requested by the Department of Technology and the Building Commissioner to determine if adequate documentation is being maintained to support Planning & Building changes.

We researched materials on change control procedures and used criteria from the Information Systems Audit and Control Association (ISACA) in order to evaluate the city's change control processes. ISACA states that detailed change control procedures should be in writing and up-to-date. Programmers should only be allowed to make

changes in a specifically designated development area. Programmers should not be able to make changes to live production programs. The procedures should be very strong on testing changes in the development area, independently of the programmer who made the change, and should be equally strong on controlling how amended and tested programs are subsequently put into production.

## **SCOPE**

Our audit focused on procedures in place as of February 1, 2006. We did not review the change control processes that were in place for the Department of Housing & Neighborhood Services.

## **OBJECTIVES**

The objective of this audit was to determine if adequate change control procedures are in place for the Accela system as it relates to Planning & Building.

## **METHODOLOGY**

We interviewed the staff members that make changes to the Accela system as it relates to Planning & Building and documented their change control processes. We evaluated the adequacy of the processes in addressing the risks related to change control. We reviewed the users that were set up on Composer system and evaluated their access rights.

## **RESULTS**

### **Finding 01 – Change Control Documentation**

The Building Commissioner makes changes related to documents, screens, and tables. The Department of Technology makes changes that involve screens, tables, scripts, and adding user defined fields. Maintaining documentation for minor changes such as modifying documents or relocating fields on a screen is not necessary as they are considered to be self explanatory. A complete record of significant changes to Accela should be documented and maintained in the Department of Technology. The Building Commissioner maintains some of his change documentation in his office while other changes are documented and filed in a vault in the Department of Technology. According to ISACA, all requests for changes and related information should be maintained by the system maintenance staff as part of the system's permanent documentation. Without a complete record of all changes to Accela, this increases the risk that programmers will not have a full and complete understanding of the system and as a result may not be able to diagnose the cause of poor or problematic system performance.

### **Action Plan 01 – Change Control Documentation**

The Department of Technology will develop a formal agreement that specifies the

responsibilities of the user department and the service levels provided by the Department of Technology. The agreement will require all requests for changes and subsequent programming and testing to be documented by the appropriate party and maintained by the Department of Technology as part of the Accela's permanent documentation. The Department of Technology will establish a central file for each system in which all change control documentation can be captured and maintained.

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## **Finding 02 – Testing**

According to ISACA, testing should ensure that the system will process valid data correctly but reject invalid data. Appropriate documented test plans should be developed to assist testing. These should include test cases / scenarios, test conditions, expected test results and test criteria. Test plans should be in sufficient detail to enable comprehensive testing to be undertaken. Actual test results should be documented and compared against expected results. Any discrepancies should be highlighted for further investigation; and if necessary, the appropriate program changes should be made and re-tested. The Building Commissioner and Department of Technology Programmer II have an informal process of testing programming changes. A test plan is not documented and the results are not recorded. This increases the risk that important aspects of system performance will not be tested and that test results could be misinterpreted. It also increases the risk that program changes will produce unintended and unwanted results.

## **Action Plan 02 – Testing**

The Department of Technology will develop a formal agreement that includes change control procedures. Departments that program changes will be required to develop a test plan that includes test cases / scenarios, test conditions, expected test results and test criteria. Test plans should be of sufficient detail to enable Department of Technology Systems Analysts to evaluate the adequacy of the plan. Test results should be documented to help ensure proper interpretation and completion of the plan. Test plans for document changes and for relocating fields on forms is not necessary.

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## **Finding 03 – Operations Moving Modules to Production**

The Accela system was not designed with adequate provisions for controlling changes and ensuring the integrity of data. The standard operating procedures implemented by the Department of Technology to control changes to better designed systems have been applied to Accela as a matter of standard practice. The four Operations Support Specialists share one user ID with update rights [i.e., composer] for the Accela system. Upon notification from the Systems Analyst, the Operations staff moves modules from rehearsal to production. This involves Operations staff signing into Composer, selecting the appropriate screen, document, etc. There is no apparent control value associated with Operations executing the production update. The time required to implement a program change is increased. The opportunity for mistakes in moving changes to

production is increased. A shared user ID weakens access control, as does having greater numbers of users with update access rights.

**Action Plan 03 – Operations Moving Modules to Production**

The Department of Technology will remove the Composer user ID for Operations staff. The standard procedures for updating Accela will be changed to have the Systems Analyst move modules to production once she has verified the test plan was completed and all documentation has been filed.

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**Finding 04 – Composer Users Have Access to Production**

Update access rights should be limited to the fewest number of people possible while allowing for proper segregation of duties and efficient system utilization. We reviewed the users that have update access rights through Composer. We determined that two users did not routinely use Composer in the course of performing their jobs. As noted in finding 3, Operations Support Specialists share a user ID that provides Composer rights.

**Action Plan 04 – Composer Users Have Access to Production**

The Department of Technology will remove the Composer user ID for the two users.

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**CONCLUSION**

Based on the results of our audit work, we believe that controls over change control could be strengthened by the actions noted.

We would like to thank the Building Commissioner and the Department of Technology for their assistance throughout the audit.

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